

09/948,342

FILE 'HOME' ENTERED AT 14:40:48 ON 04 NOV 2002

=> file reg
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 14:41:03 ON 04 NOV 2002
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STRUCTURE FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5
DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STN Note 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL ***

=>
Uploading 09942342.str

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

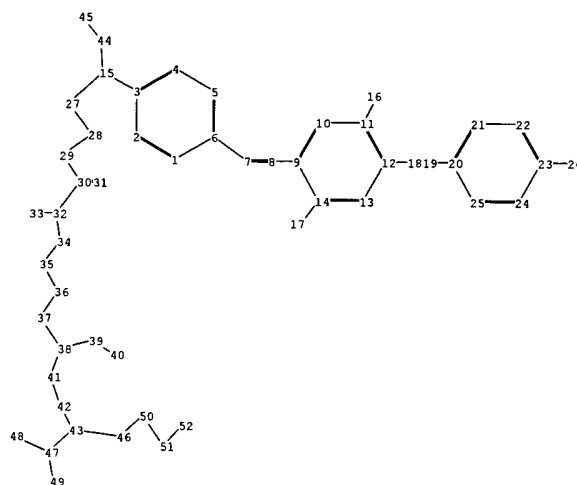
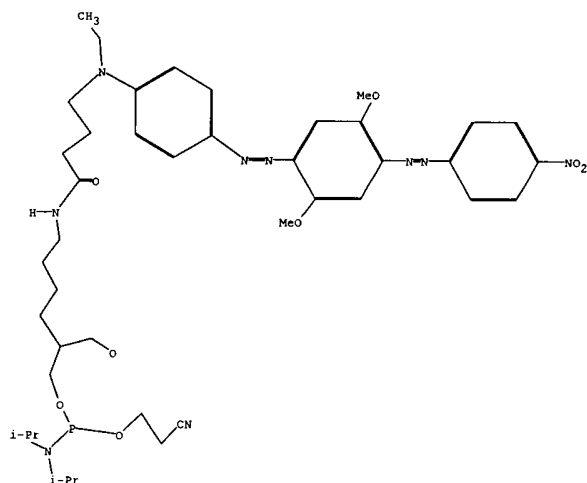
Structure attributes must be viewed using STN Express query preparation.

=> s l1 full
FULL SEARCH INITIATED 14:41:35 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 2 TO ITERATE

100.0% PROCESSED 2 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1

=>



chain nodes :

7 8 15 16 17 18 19 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41
42 43 44 45 46 47 48 49 50 51 52

ring nodes :

1 2 3 4 5 6 9 10 11 12 13 14 20 21 22 23 24 25

chain bonds :

3-15 6-7 7-8 8-9 11-16 12-18 14-17 15-27 15-44 18-19 19-20 23-26 27-28 28-29
29-30 30-31 30-32 32-33 32-34 34-35 35-36 36-37 37-38 38-39 38-41 39-40 41-42
42-43 43-46 43-47 44-45 46-50 47-48 47-49 50-51 51-52

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 9-10 9-14 10-11 11-12 12-13 13-14 20-21 20-25 21-22
22-23 23-24 24-25

exact/norm bonds :

3-15 6-7 7-8 8-9 12-18 15-27 15-44 18-19 19-20 30-31 30-32 32-34 39-40 41-42
42-43 43-46 43-47 46-50

exact bonds :

11-16 14-17 23-26 27-28 28-29 29-30 32-33 34-35 35-36 36-37 37-38 38-39 38-41
44-45 47-48 47-49 50-51 51-52

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 9-10 9-14 10-11 11-12 12-13 13-14 20-21 20-25 21-22
22-23 23-24 24-25

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS
20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:CLASS 27:CLASS 28:CLASS
29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS
38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 45:CLASS 46:CLASS
47:CLASS 48:CLASS 49:CLASS 50:CLASS 51:CLASS 52:CLASS

FILE 'HOME' ENTERED AT 14:40:48 ON 04 NOV 2002

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 14:41:03 ON 04 NOV 2002

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL ***

=>

Uploading 09942342.str

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full

FULL SEARCH INITIATED 14:41:35 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 2 TO ITERATE

100.0% PROCESSED 2 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

L2 0 SEA SSS FUL L1

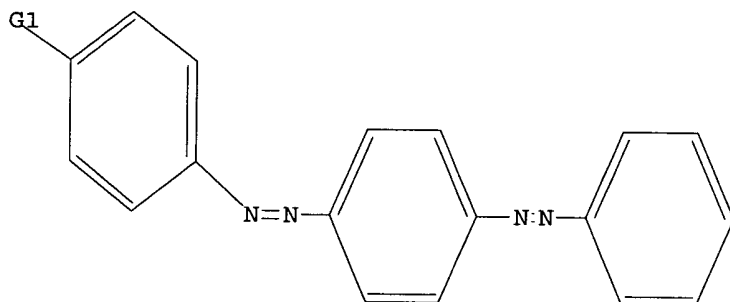
=>

Uploading 09942342.str

L3 STRUCTURE UPLOADED

=> d l3

L3 HAS NO ANSWERS
L3 STR



G1 C,N

Structure attributes must be viewed using STN Express query preparation.

=> s l3 full
FULL SEARCH INITIATED 14:46:52 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 40254 TO ITERATE

100.0% PROCESSED 40254 ITERATIONS 9211 ANSWERS
SEARCH TIME: 00.00.04

L4 9211 SEA SSS FUL L3

=> file caplus
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
283.60	283.81

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 14:47:20 ON 04 NOV 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 4 Nov 2002 VOL 137 ISS 19
FILE LAST UPDATED: 3 Nov 2002 (20021103/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

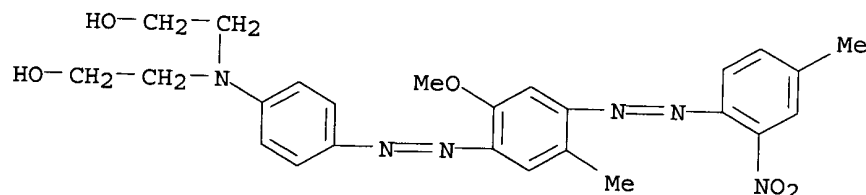
=> s l4
L5 2919 L4

=> s 15 and fluorescence quencher
 256026 FLUORESCENCE
 5175 QUENCHER
 291 FLUORESCENCE QUENCHER
 (FLUORESCENCE (W) QUENCHER)
 L6 0 L5 AND FLUORESCENCE QUENCHER

=> s 15 and fluorescence
 256026 FLUORESCENCE
 L7 15 L5 AND FLUORESCENCE

=> d 17 bib abs hitstr 1-15

L7 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 2002:373423 CAPLUS
 DN 137:58223
 TI Intramolecular Dimers: A New Strategy to **Fluorescence** Quenching
 in Dual-Labeled Oligonucleotide Probes
 AU Johansson, Mary Katherine; Fidler, Henk; Dick, Daren; Cook, Ronald M.
 CS Biosearch Technologies, Novato, CA, 94949, USA
 SO Journal of the American Chemical Society (2002), 124(24), 6950-6956
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 AB Many genomics assays use profluorescent oligonucleotide probes that are covalently labeled at the 5' end with a fluorophore and at the 3' end with a quencher. It is generally accepted that quenching in such probes without a stem structure occurs through Forster resonance energy transfer (FRET or FET) and that the fluorophore and quencher should be chosen to maximize their spectral overlap. We have studied two dual-labeled probes with two different fluorophores, the same sequence and quencher, and with no stem structure: 5'Cy3.5-.beta.-actin-3'BHQ1 and 5'FAM-.beta.-actin-3'BHQ1. Anal. of their absorption spectra, relative **fluorescence** quantum-yields, and **fluorescence** lifetimes shows that static quenching occurs in both of these dual-labeled probes and that it is the dominant quenching mechanism in the Cy3.5-BHQ1 probe. Absorption spectra are consistent with the formation of an excitonic dimer, an intramol. heterodimer between the Cy3.5 fluorophore and the BHQ1 quencher.
 IT 374591-92-1D, BHQ 1, conjugates with Cy3.5- and fluorescein-labeled oligonucleotides
 RL: PRP (Properties)
 (fluorescence quenching by intramol. dimer formation in dual-labeled oligonucleotide probes)
 RN 374591-92-1 CAPLUS
 CN Ethanol, 2,2'-[[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:833569 CAPLUS
 DN 135:368945

TI Synthesis and methods for dark quencher probes for donor-acceptor energy transfer
 IN Cook, Ronald M.; Lyttle, Matt; Dick, Daren
 PA Biosearch Technologies, Inc., USA
 SO PCT Int. Appl., 95 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001086001	A1	20011115	WO 2001-US15082	20010508
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2000-567863 A 20000509

OS MARPAT 135:368945

AB The invention concerns a family of quenchers of excited state energy that are substantially non-fluorescent, termed "Black Hole Quenchers" (BHQs). The quenchers of the invention remedy many of the deficiencies of currently utilized dark quenchers, probes assembled using these quenchers and methods using such quenchers and probes. Further, the dark quenchers are functionalized to allow their rapid attachment to probe that can be engineered to have a desired light absorption profile. The provision of this class of dark quenchers represents a substantial improvement in the design of probes incorporating dark quenchers and methods using such probes. Also provided are methods of using the BHQs, synthesis of such probes incorporating the BHQs and methods of using the probes.

IT 374591-92-1DP, conjugates with nucleotides 374591-95-4P

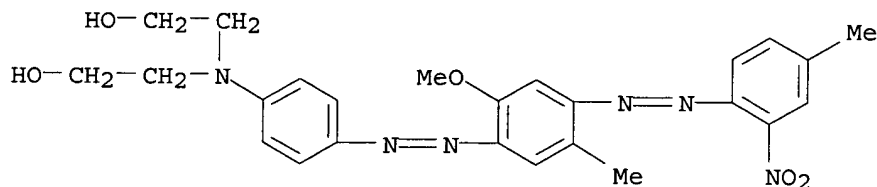
374591-96-5DP, conjugates with nucleotides 374591-99-8P

RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)

(Synthesis and methods for dark quencher probes for donor-acceptor energy transfer)

RN 374591-92-1 CAPLUS

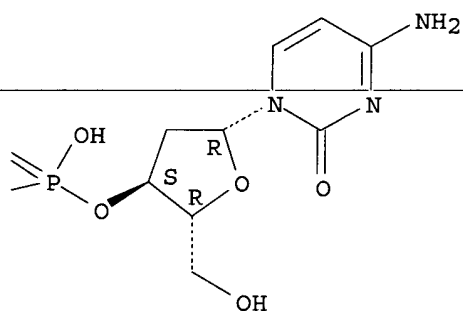
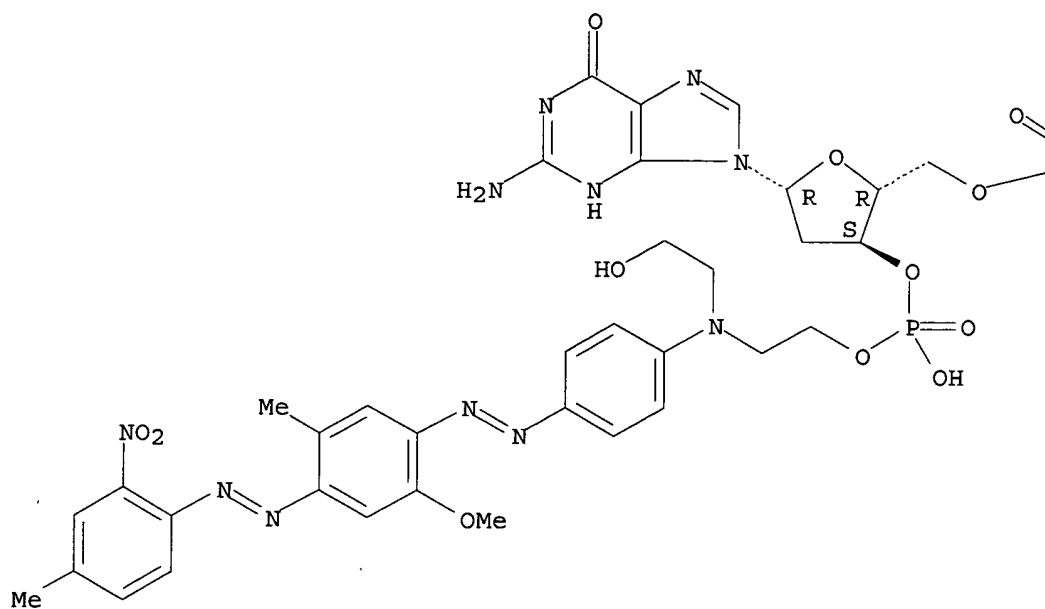
CN Ethanol, 2,2'-[[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



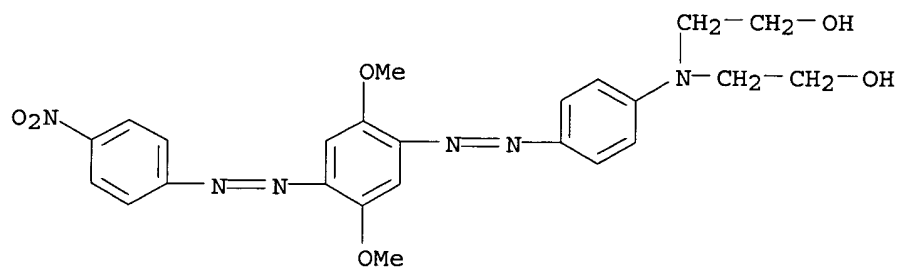
RN 374591-95-4 CAPLUS

CN 3'-Guanylic acid, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-, 3'-[2-[(2-hydroxyethyl)4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]amino]ethyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry unknown.



RN 374591-96-5 CAPLUS
 CN Ethanol, 2,2'-[[4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)

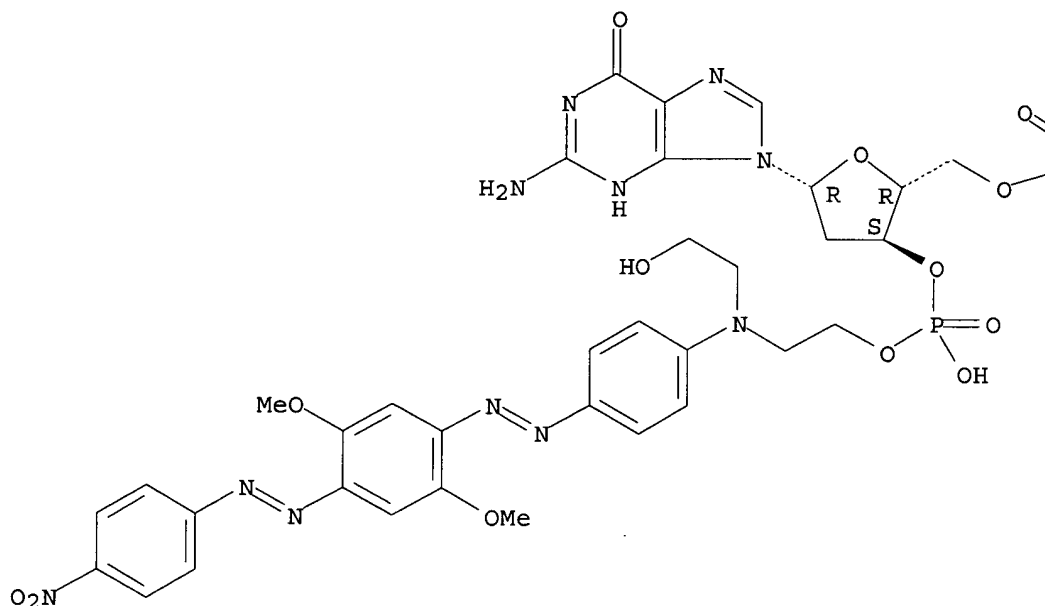


RN 374591-99-8 CAPLUS
 CN 3'-Guanylic acid, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-,
 3'-[2-[[4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl](2-

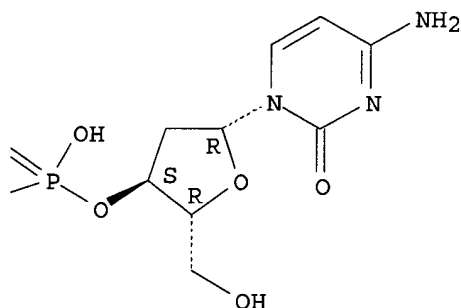
hydroxyethyl)amino]ethyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



PAGE 1-B



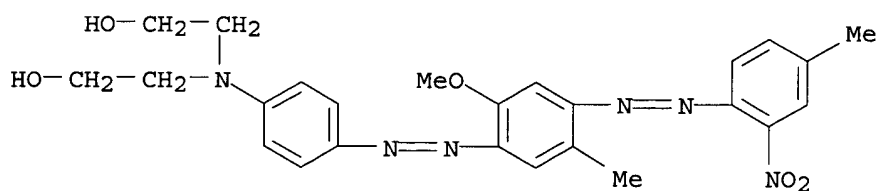
IT 374591-92-1P 374591-93-2P 374591-94-3P
374591-96-5P 374591-97-6P 374591-98-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(Synthesis and methods for dark quencher probes for donor-acceptor
energy transfer)

RN 374591-92-1 CAPLUS

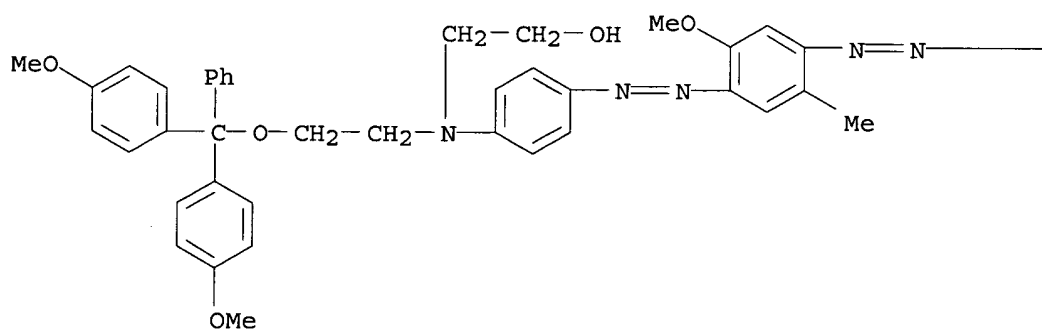
CN Ethanol, 2,2'-[[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-
nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



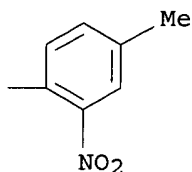
RN 374591-93-2 CAPLUS

CN Ethanol, 2-[[2-[[bis(4-methoxyphenyl)phenylmethoxy]ethyl][4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]amino]- (9CI) (CA INDEX NAME)

PAGE 1-A

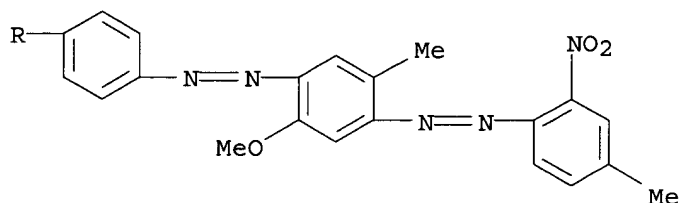
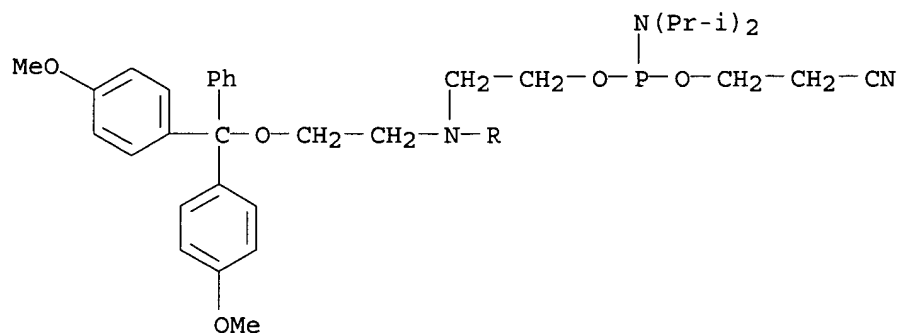


PAGE 1-B

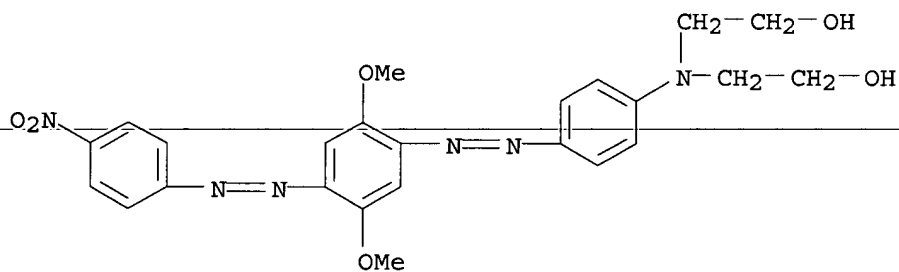


RN 374591-94-3 CAPLUS

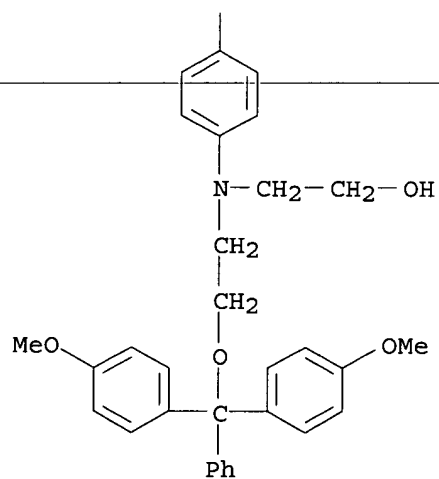
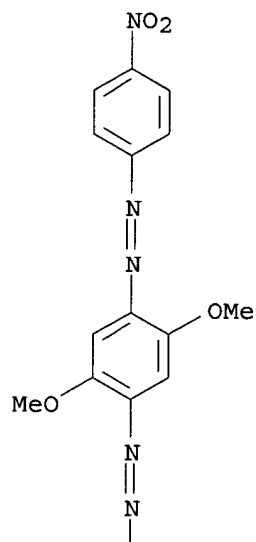
CN Phosphoramidous acid, bis(1-methylethyl)-, 2-[[2-[[bis(4-methoxyphenyl)phenylmethoxy]ethyl][4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]amino]ethyl 2-cyanoethyl ester (9CI) (CA INDEX NAME)



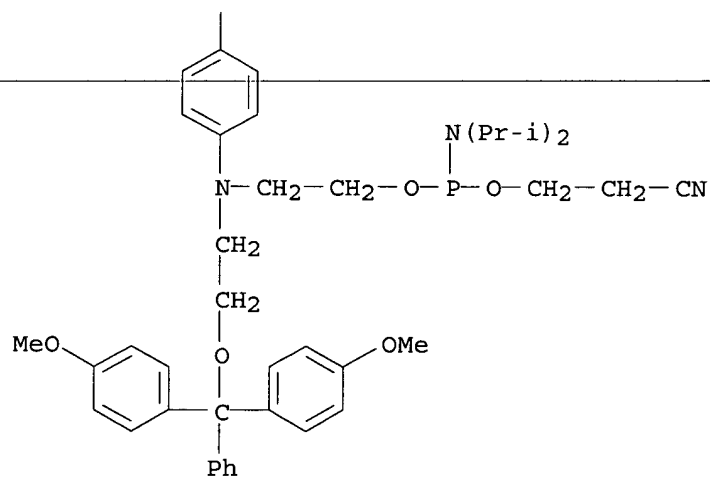
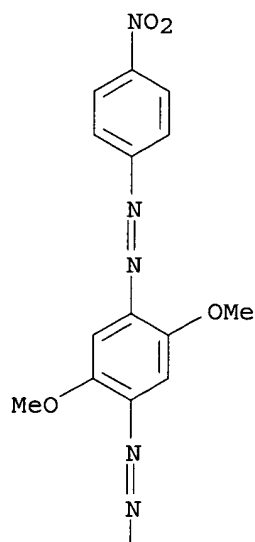
RN 374591-96-5 CAPLUS
 CN Ethanol, 2,2'-[[4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



RN 374591-97-6 CAPLUS
 CN Ethanol, 2-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl][4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]amino]- (9CI) (CA INDEX NAME)



RN 374591-98-7 CAPLUS
 CN Phosphoramidous acid, bis(1-methylethyl)-, 2-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl] [4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]amino]ethyl 2-cyanoethyl ester (9CI)
 (CA INDEX NAME)



RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

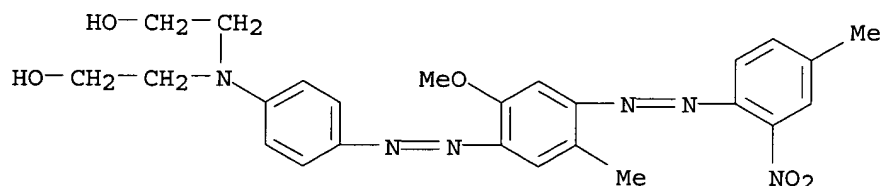
L7 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 2001:592662 CAPLUS
DN 136:227417
TI Use of dark-quenched FRET probes in real-time PCR
AU Chou, Quin; Gregory, Sara; Mandyam, Rangu; Brotski, Chris; Cabradilla, Cy.
CS BioSource International, Inc., Camarillo, CA, 93012, USA
SO American Biotechnology Laboratory (2001), 19(8), 34
CODEN: ABLAEY; ISSN: 0749-3223
PB International Scientific Communications, Inc.
DT Journal
LA English

AB FRET (**fluorescence** resonance energy transfer) probes are random-coiled oligonucleotides contg. a reporter at the 5' end and a quencher at the 3' end. Quenching of the FRET probe is achieved by spectral overlap. The use of Black Hole Quencher (BHQ)-labeled FRET probes in real-time polymerase chain reaction (PCR) was evaluated. For S/N measurement, each FRET probe was formulated with a 5' a reporter (FAM) and a 3' quencher (TAMRA, DABCYL, BHQ 1, or BHQ 2). FRET probes were digested with DNase at room temp. for 1 h, and the **fluorescence** intensities were measured using the LS-50B PCR detection system. The 5'-FAM FRET probe with BHQ 1 at the 3'-end gave the best S/N among the different quenchers evaluated, and TAMRA was the least effective quencher. BHQ-labeled FRET probes could reliably detect target as low as 100 copies, and provide higher sensitivity than TAMRA-labeled probes. They also worked well even under suboptimal PCR conditions.

IT 374591-92-1, Black Hole Quencher 1 374591-96-5, BHQ 2
 RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (fluorescent label; use of dark-quenched FRET probes in real-time PCR)

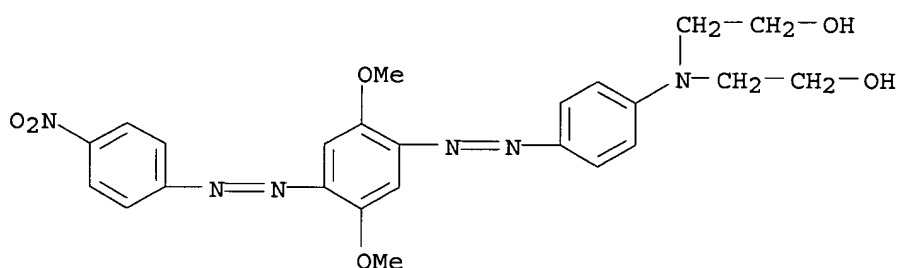
RN 374591-92-1 CAPLUS

CN Ethanol, 2,2'-[[4-[[2-methoxy-5-methyl-4-[(4-methyl-2-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



RN 374591-96-5 CAPLUS

CN Ethanol, 2,2'-[[4-[[2,5-dimethoxy-4-[(4-nitrophenyl)azo]phenyl]azo]phenyl]imino]bis- (9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2002 ACS

AN 2000:320293 CAPLUS

DN 133:157538

TI Direct blue dye solutions: photo-properties

AU Isak, S. J.; Eyring, E. M.; Spikes, J. D.; Meekins, P. A.

CS Department of Chemistry, University of Utah, Salt Lake City, UT, 84112, USA

SO Journal of Photochemistry and Photobiology, A: Chemistry (2000), 134(1-2), 77-85

CODEN: JPPCEJ; ISSN: 1010-6030

PB Elsevier Science S.A.

DT Journal

LA English

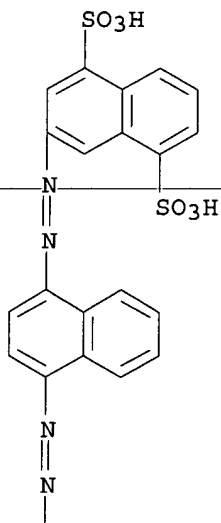
AB Weakly fluorescing azo dyes can be used as photothermal sensitizing agents in the photodynamic therapy (PDT) of some forms of cancer and other diseases. A desirable property of such dye is that it will dissipate most of its excitation energy by nonradiative decay processes rather than by **fluorescence** or energy transfer to dioxygen. The max. absorption wavelengths, the **fluorescence** quantum yields .PHI.F, the mean **fluorescence** wavelengths, and threshold dye concns. below which .PHI.F does not decrease with rising dye concns. are reported for nine azo dyes that appear to have the correct optical properties for application as photothermal sensitizing agents.

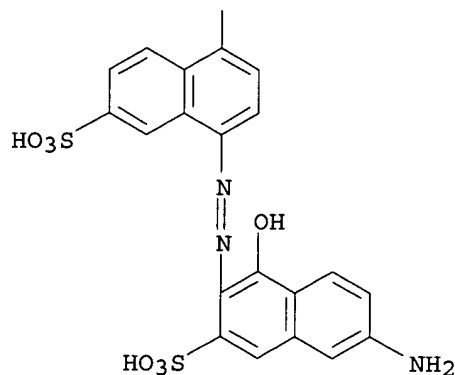
IT 4399-55-7, Direct blue 71
 RL: PRP (Properties)
 (photophys. properties of azo dyes for application as photothermal sensitizers for photodynamic therapy)

RN 4399-55-7 CAPLUS

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(6-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

PAGE 1-A



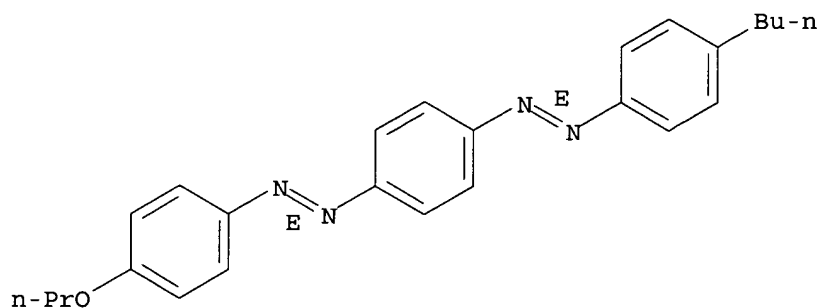


● 4 Na

RE.CNT 88 THERE ARE 88 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 1999:423907 CAPLUS
DN 131:177279
TI Fluorescent liquid crystal color display using a guest-host UV shutter and phosphor layers on the inside of the cell
AU Yamaguchi, Rumiko; Kishida, Junya; Ugai, Yasuhiro; Izumi, Tukasa; Sato, Susumu
CS Department of Electrical and Electronic Engineering, Akita University, Akita, 010-8502, Japan
SO Japanese Journal of Applied Physics, Part 2: Letters (1999), 38(6A/B), L652-L654
CODEN: JAPLID8; ISSN: 0021-4922
PB Japanese Journal of Applied Physics
DT Journal
LA English
AB Fluorescent liq. crystal displays (LCDs) have been demonstrated using a guest-host (GH) LC UV shutter cell. Red, green and blue inorg. phosphor lines were manufd. on a glass substrate and an indium-tin-oxide electrode was coated on a phosphor layer. The GH LC cell was composed of this substrate and the phosphor layer was inside of the cell, as well as the color filter used in the current LCD. A UV light emitting diode or a UV fluorescent lamp was used as an excitation source and the switching properties of the **fluorescence** intensity and their contrast ratio were measured and discussed.
IT 80156-87-2, G-207
RL: DEV (Device component use); USES (Uses)
(liq. crystal color display using guest-host UV shutter and phosphor layers on inside of cell)
RN 80156-87-2 CAPLUS
CN Diazene, [4-[(1E)-(4-butylphenyl)azo]phenyl](4-propoxyphenyl)-, (1E)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2002 ACS

AN 1999:243015 CAPLUS

DN 131:32371

TI New chromophores and polymers for second order nonlinear optics

AU Schrader, Sigurd; Prescher, Dietrich; Zauls, Vismants

CS Institut fur Physik, Lehrstuhl Physik Kondensierter Materie, Universitat
Potsdam, Potsdam, D-14469, Germany

SO Proceedings of SPIE-The International Society for Optical Engineering
(1998), 3474 (Second-Order Organic Nonlinear Optics), 160-171
CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal

LA English

AB Linear conjugated, fluorine-contg. chromophores were prepd., which have a lower linear refractive index, however, the second order nonlinear optical susceptibility of asym. substituted fluorine-contg. dyes is as high as that of Disperse Red I and similar chromophores. These observations are supported by measurements of solvatochromy of absorption and

fluorescence spectra, electroabsorption, and quantum chem. calcns. of azomethine and azo dyes. The chem. constitution of the conjugated part of the chromophores has an important effect on linear and nonlinear optical properties. Azomethine dyes show a blue shifted absorption in comparison to the absorption of azo chromophores, along with lower off-resonant second order susceptibility. Introduction of fluorine into the acceptor part of the mol. by attaching a CF₃-group does not lead to a significantly lower second order susceptibility in comparison to non-fluorinated chromophores. Perfluorination of the acceptor part results in an increased second order susceptibility as compared to the non-fluorinated chromophore. Polymers which contain these chromophores were prepd. by phys. doping or by covalent bonding of the dyes to the polymeric main chain. For phys. doped polymers, thermally stable allylic polymers and poly(Ph quinoxaline)s (PPQs) were used as matrix. These polymers are miscible with the chromophores up to high concns. (<15%) and are characterized by glass transition temps. of 140-180.degree. (allylic polymers) and 180-350.degree. (PPQs), depending on chem. structure and dye concn. Polymers which contain the active chromophores in side chains were prepd. from maleic acid anhydride or as novolak epoxy amine adducts. The former can be utilized for prepn. of waveguides by Langmuir-Blodgett-(LB)-technique while the latter provide films of excellent quality by spin-coating and subsequent corona poling. Second order susceptibility of the polymer films as detd. by second harmonic generation (SHG) reached 5-27 pm/V, depending on chromophore concn. and prepn. conditions.

IT 91204-49-8

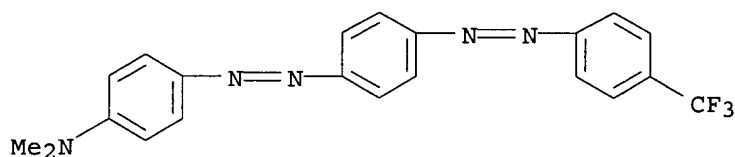
RL: PRP (Properties)

(second order NLO properties of fluorine-contg. chromophores in polymer matrix and chromophore contg. polymers)

RN 91204-49-8 CAPLUS

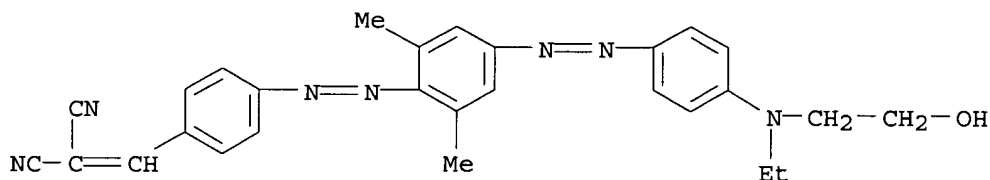
CN Benzenamine, N,N-dimethyl-4-[[4-[[4-(trifluoromethyl)phenyl]azo]phenyl]azo

] - (9CI) (CA INDEX NAME)



RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2002 ACS
AN 1998:808099 CAPLUS
DN 130:117068
TI Photobleaching characteristics and application for optical waveguide of polymer films containing .pi.-conjugated organic dyes
AU Shibata, Tomoaki; Hattori, Toshiaki; Onodera, Shinji; Kaino, Toshikuni
CS Institute for Chemical Reaction Science, Tohoku University, Katahira, Aoba-ku, Sendai-shi, 980-8577, Japan
SO Nippon Kagaku Kaishi (1998), (12), 831-836
CODEN: NKAKB8; ISSN: 0369-4577
PB Nippon Kagakkai
DT Journal
LA Japanese
AB PMMA films contg. 3 kinds of typical .pi.-conjugated org. dyes, a nitro dye, a styryl dye, and an azobenzene dye, are irradiated by Xe lamp. Their photobleaching characteristics are studied and applications for optical polymer waveguides are discussed. For a few .mu.m-thick films fabricated by spin-coating, following 3 characteristics are experimented; (1) changes of UV-visible absorption, IR absorption and film thickness caused by photobleaching, (2) thermal reversibility of photobleached film, (3) refractive index changes induced by photobleaching. From the practical point for optical polymer waveguide fabrication, following 3 features are required; (1) photobleaching does not proceed under weak UV light with fluorescent light level, (2) the dye structure does not show thermal reversibility after photobleaching, and (3) enough refractive index difference for optical waveguides should be induced by photobleaching. Among 3 dyes, studied, PMMA film contg. azobenzene dye is revealed to be the best 1 for fabricating dye contg. optical polymer waveguides and bis-azobenzene dye attached PMMA film will be the most promising for the waveguides via photobleaching.
IT 160176-02-3
RL: MOA (Modifier or additive use); USES (Uses)
(3RDCVXY; photobleaching characteristics and application for optical waveguide of polymer films contg.)
RN 160176-02-3 CAPLUS
CN Propanedinitrile, [[4-[[4-[[4-[ethyl(2-hydroxyethyl)amino]phenyl]azo]-2,6-dimethylphenyl]azo]phenyl]methylene]- (9CI) (CA INDEX NAME)



L7 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2002 ACS

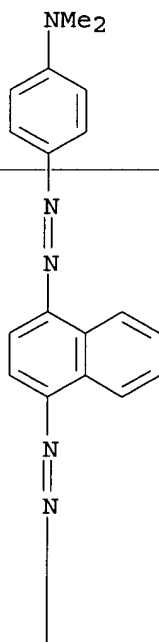
AN 1997:655032 CAPLUS
 DN 127:353054
 TI Liquid-crystal display element
 IN Iwanaga, Hiroki; Naito, Katsuyuki
 PA Toshiba Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

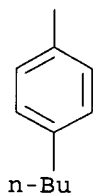
FAN.CNT 1

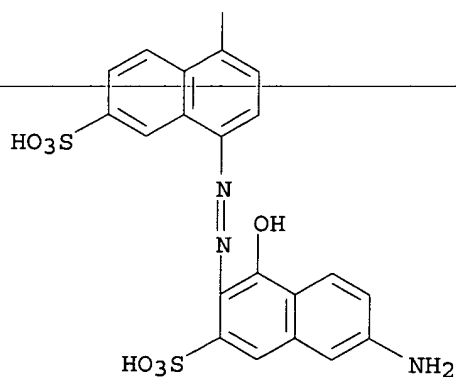
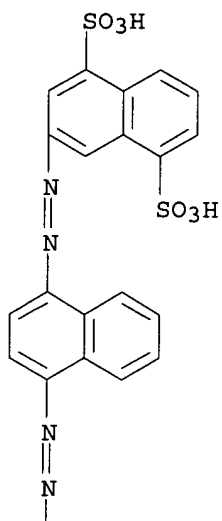
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09258272	A2	19971003	JP 1996-68408	19960325
AB	The liq.-crystal display element comprises a liq.-crystal layer which contains a liq.-crystal material, a dichroic fluorescent substance emitting blue fluorescence and a dichroic dye with a different type of dichroism from the fluorescent substance and is enclosed between a pair of substrates. Bright and clear color display is achieved.				
IT	78245-21-3, g239				
	RL: DEV (Device component use); USES (Uses) (liq.-crystal display element from)				
RN	78245-21-3 CAPLUS				
CN	Benzenamine, 4-[[4-[(4-butylphenyl)azo]-1-naphthalenyl]azo]-N,N-dimethyl- (9CI) (CA INDEX NAME)				

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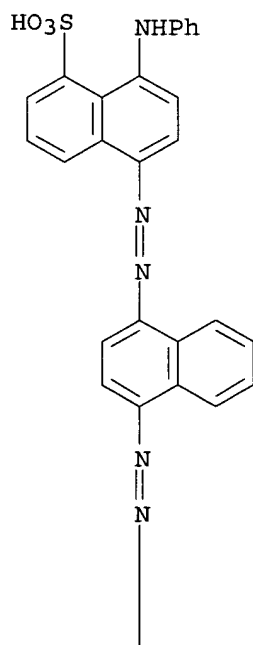
●4 Na

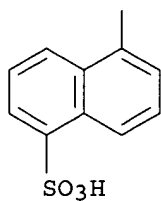
L7 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 1995:541404 CAPLUS
 DN 122:283832
 TI Analogs of reporter groups as background reducers in hybridization assays
 IN Cubbage, Michael Lee; Bresser, Joel; Blick, Mark; Ju, Shyh Chen
 PA Arogenex, Inc., USA
 SO PCT Int. Appl., 32 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 11

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9502699 A1 19950126 WO 1994-US467 19940114
W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
CN 1084219 A 19940323 CN 1993-116558 19930717
AU 9471354 A1 19950213 AU 1994-71354 19940114
PRAI CN 1993-116558 19930717
IL 1993-106381 19930718
US 1992-915927 19920717
US 1992-916183 19920717
WO 1994-US467 19940114
AB Nonspecific background in in situ assays (cells or viruses) is reduced by use of an excess of reporter group analog which binds nonspecifically to the biol. entity in competitive equil. with the reporter group. The reporter groups may be fluorescent, chemiluminescent, or enzymic, and the assay method encompasses nucleic acid hybridizations. Thus, HIV assays in the H9 cell line with 39-mer hybridization probes labeled with FITC (fluorescein isocyanate) were improved by reducing background with aurintricarboxylic acid at 0.05 and 0.1% concn. Other FITC analogs (Acid Black 24, Basic Fuchsin, Eosin, Naphthol Blue Black, and Nile Blue) also competitively reduced the **fluorescence** background in isolated white blood cells. Similarly, when a nucleic acid probe linked to alk. phosphatase is used, the analog may be ovalbumin, catalase, aldolase, or .beta.-galactosidase.
IT 3071-73-6, Acid Black 24
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (FITC analog; analogs of reporter groups as background reducers in hybridization assays)
RN 3071-73-6 CAPLUS
CN 1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(5-sulfo-1-naphthalenyl)azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)

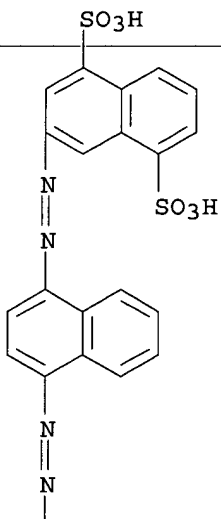
PAGE 1-A

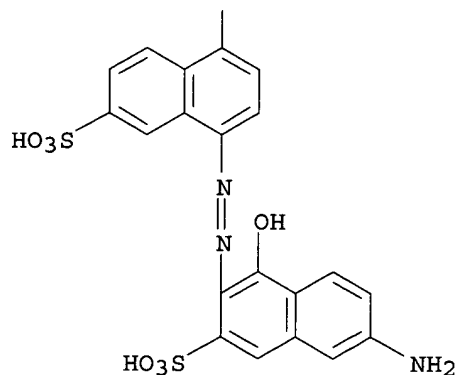




● 2 Na

IT 4399-55-7, Direct Blue 71
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (reporter group analog; analogs of reporter groups as background
 reducers in hybridization assays)
 RN 4399-55-7 CAPLUS
 CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(6-amino-1-hydroxy-3-sulfo-2-
 naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-1-naphthalenyl]azo]-,
 tetrasodium salt (9CI) (CA INDEX NAME)

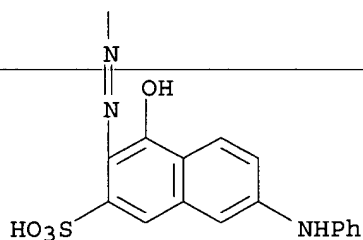
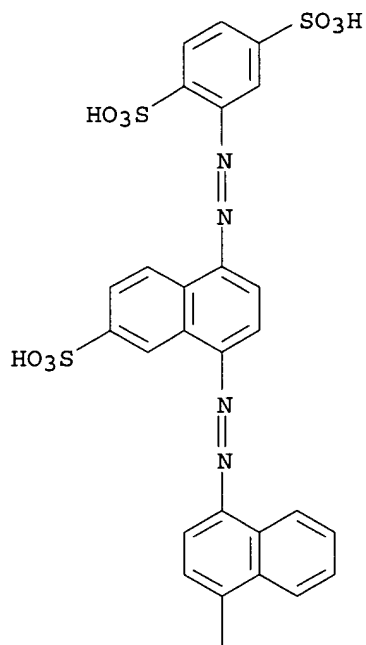




● 4 Na

L7 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 1989:203056 CAPLUS
 DN 110:203056
 TI Thermal-transfer recording sheet for fluorescent images
 IN Tsugawa, Hiroaki; Fukuoka, Shinya
 PA Nippon Kayaku Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63319189	A2	19881227	JP 1987-154336	19870623
AB	The title materials have thermally transferable layers contg. org. fluorescent pigments and waxes, with or without fluorescent brighteners. These materials give extra-clear images giving fluorescence by UV. Thus, 20 parts of 40% dispersion of red fluorescent pigment, prepd. by emulsion polymn. of hexene-1 and maleic anhydride in the presence of 2% wt. C. I. 45170, 37% aq. emulsion of carnauba wax 54, 40% dispersion of paraffin wax 10, 46% dispersion of terpene phenols 11.5 parts and water were mixed, coated on polyester film, and dried to form a 6 g/m2 layer. The use of obtained sheet in thermal printer gave clear images with high transfer efficiency. Images on already printed surface did not hinder reading the background character images.				
IT	2503-73-3, C.I. 34200 RL: USES (Uses) (fluorescent pigment contg. matrix polymer and, for thermal-transfer recording)				
RN	2503-73-3 CAPLUS				
CN	1,4-Benzenedisulfonic acid, 2-[[4-[[4-[[1-hydroxy-6-(phenylamino)-3-sulfo-2-naphthalenyl]azo]-1-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)				



● 4 Na

L7 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2002 ACS

AN 1986:438550 CAPLUS

DN 105:38550

TI Prediction of in situ **fluorescence** of histochemical reagents
using a structure-staining correlation procedure

AU Juarranz, A.; Horobin, R. W.; Proctor, G. B.

CS Dep. Anat. Cell Biol., Univ. Sheffield, Sheffield, S10 2TN, UK

SO Histochemistry (1986), 84(4-6), 426-31

CODEN: HCMYAL; ISSN: 0301-5564

DT Journal

LA English

AB A total of 90 acid, basic, and nonionic dyes were screened for fluorescent staining of various Carnoy fixed rat tissues. It was found that the **fluorescence**/nonfluorescence of a dye could be predicted using a conjugated bond no. (CBN) cut-off value. Thus, 90% of the dyes with CBNs of .ltoreq.29 were fluorescent, whereas 70% of the dyes whose CBNs exceeded 30 were nonfluorescent. The cut-off value was not influenced by

the charge, or the hydrophobic-hydrophilic character of the dye, although **fluorescence** was greatly influenced by the mode of fixation. The CBN cut-off value proved surprisingly robust. Thus, most fluorochromes found in the histochem. literature have small conjugated systems, with CBNs less than the cut-off value. This includes labels of Igs, vital stains of neurons, and fluorescent Schiff reagents. Conversely, several dyes used to quench background autofluorescence have large conjugated systems, with CBNs substantially above the cut-off value.

IT 2503-73-3 5489-77-0 6661-42-3

33540-94-2

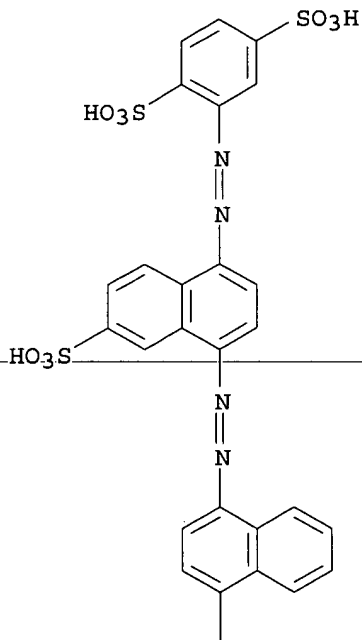
RL: ANST (Analytical study)

(fluorescent staining with, of animal tissues, structure-staining correlation procedure for prediction of)

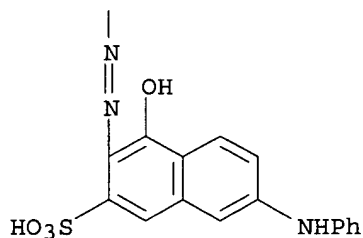
RN 2503-73-3 CAPLUS

CN 1,4-Benzenedisulfonic acid, 2-[[4-[[4-[[1-hydroxy-6-(phenylamino)-3-sulfo-2-naphthalenyl]azo]-1-naphthalenyl]azo]-6-sulfo-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

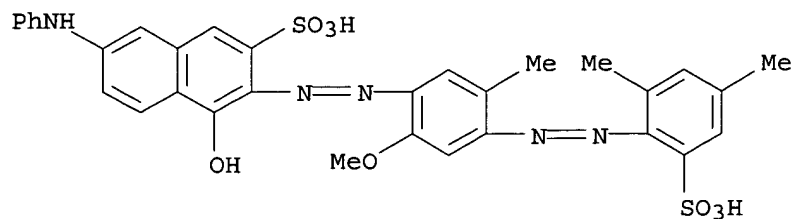
PAGE 1-A



PAGE 2-A

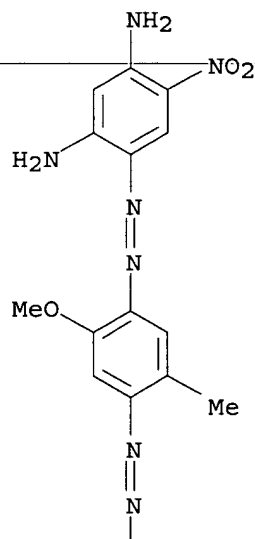


RN 5489-77-0 CAPLUS
 CN 2-Naphthalenesulfonic acid, 3-[[4-[(2,4-dimethyl-6-sulfophenyl)azo]-2-methoxy-5-methylphenyl]azo]-4-hydroxy-7-(phenylamino)-, disodium salt (9CI) (CA INDEX NAME)

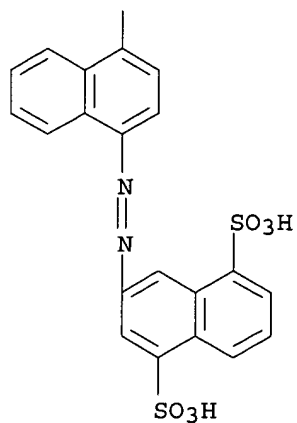


● 2 Na

RN 6661-42-3 CAPLUS
 CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(2,4-diamino-5-nitrophenyl)azo]-5-methoxy-2-methylphenyl]azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)

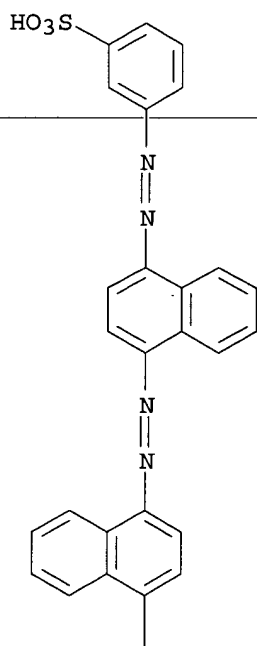


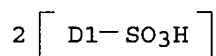
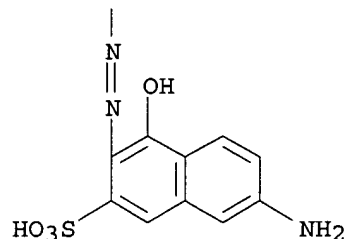
PAGE 1-A



● 2 Na

RN 33540-94-2 CAPLUS
 CN 2-Naphthalenesulfonic acid, 7-amino-4-hydroxy-3-[[6(or 7)-sulfo-4-[[6(or 7)-sulfo-4-[(3-sulfo-phenyl)azo]-1-naphthalenyl]azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

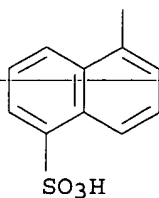
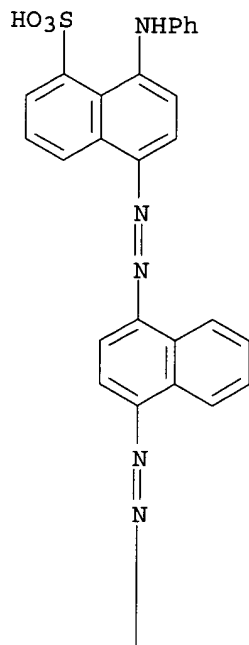




●4 Na

L7 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2002 ACS
 AN 1967:459174 CAPLUS
 DN 67:59174
 TI **Fluorescence** of dyes in the infrared
 AU Ramsley, Alvin O.
 CS U.S. Army Natick Labs., Natick, Mass., USA
 SO Color Eng. (1967), 5(1), 20-4
 CODEN: CLEGA3
 DT Journal
 LA English
 AB A compilation with 26 references listing dyes which do or do not fluoresce in the ir region.

IT **3071-73-6**
 RL: PRP (Properties)
 (**fluorescence** of)
 RN 3071-73-6 CAPLUS
 CN 1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(5-sulfo-1-naphthalenyl)azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

L7 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2002 ACS

AN 1965:44406 CAPLUS

DN 62:44406

OREF 62:7899e-h

TI Chromatographic separation of dyes

AU Baetoni, Petre; Mircea, Coca; Diamandescu, Ecaterina

SO Ind. Usoara (Bucharest) (1964), 11(5), 245-9

DT Journal

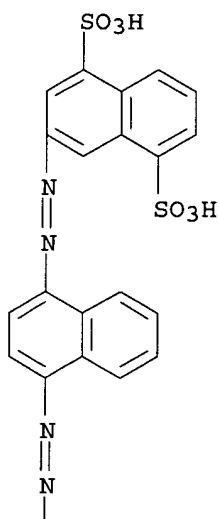
LA Romanian

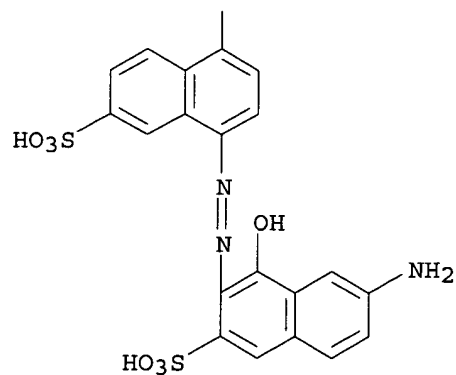
AB Four mixts. of dyes manufd. in Romania were sepd. chromatographically. Each mixt. contained one direct dye, one acid dye, and one S dye, with the exception of the red group where parafuchsin was used in place of a S dye. The dyes were: Fast Direct blue L2R (I), Fast Acid Blue 5R (II), Sulfur Blue FBL (III), Brilliant Direct Red 4A (IV), Direct Red 6A Extra (V), parafuchsin (VI), Fast Direct Brown LMR (VII), Fast Acid Brown R (VIII), Sulfur Brown D (IX), Direct Black L (X), Fast Acid Black 2A (XI), and Sulfur Black PA (XII). A 0.5% aq. soln. of the dye mixt. was applied to Whatman No. 1 chromatographic paper; the amt. of soln. used for the spot was predetd. exptl. The best eluents were (a) 20:25:50:5

H₂O-EtOH-BuOH-HCO₂H; and (b) 30:50:20 H₂O-PrOH-NH₄OH. The chromatographic time of a and b was 6.5 hrs. at 20.degree.. The following R_f values for each dye were detd. (dye, R_f for a and b given): I, 0, 0.01; II, 0.42, 0.62; III, 0.11, 0.63; IV, 0, 0; V, 0.22, 0.77; VI, 0.91, 0.81; VII, 0.07, 0.02; VIII, 0.45, 0.21; IX, 0, 0; X, 0.09, 0.03; XI, 0.47, 0.50; XII, 0, 0. Except for VII, IX, X, and XII, the dyes could be sepd. from a mixt. From the blue group, only II could be sepd. by using a. For the reds, IV was easily sepd. by a and b; for brown, VIII was easily sepd. in 6-7 hrs. by using b; for black, XI was easily sepd. with both eluents in approx. 6-7 hrs. X and XII were sepd. by using a. Uv **fluorescence** analysis and various colored reagents were used to distinguish the spots when chromatograms of mixts. of many dyes of the same color and shade, but of different categories, were used. The behavior of dyes in the presence of HNO₃ and H₂SO₄ was studied. Thin-layer chromatography (250.mu.thick silica gel) was used instead of paper. After drying at 150.degree., the shades obtained when treated with acids disappeared. In spite of the similarity of results obtained in test tubes and by thin-layer chromatography, the latter is preferable in spite of its inconvenience in reproducibility. This method can be used to sep. dyes from the dyeing of leather, textiles, etc.

- IT 3071-71-4, 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthyl)azo]-6-sulfo-1-naphthyl]azo]-1-naphthyl]azo]-, tetrasodium salt 3071-73-6, C.I. Acid Black 24 3351-05-1, C.I. Acid Blue 113 (chromatography of)
- RN 3071-71-4 CAPLUS
- CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[4-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo]-1-naphthalenyl]azo]-, tetrasodium salt (9CI) (CA INDEX NAME)

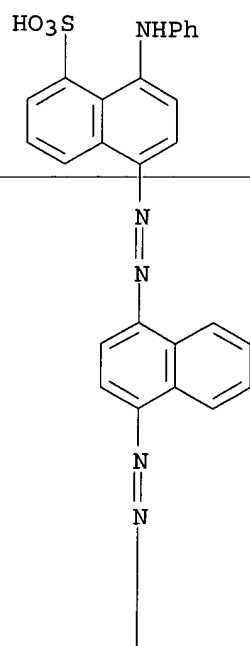
PAGE 1-A

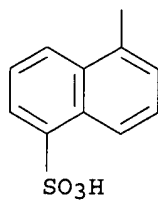




● 4 Na

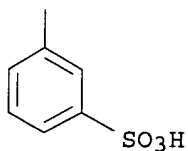
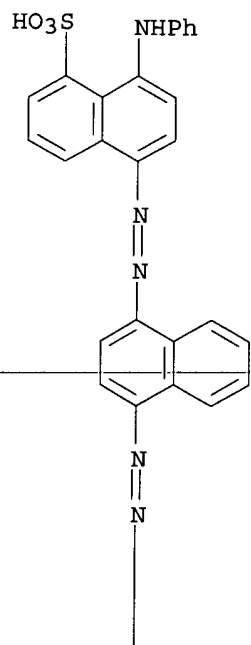
RN 3071-73-6 CAPLUS
 CN 1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(5-sulfo-1-naphthalenyl)azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)





●2 Na

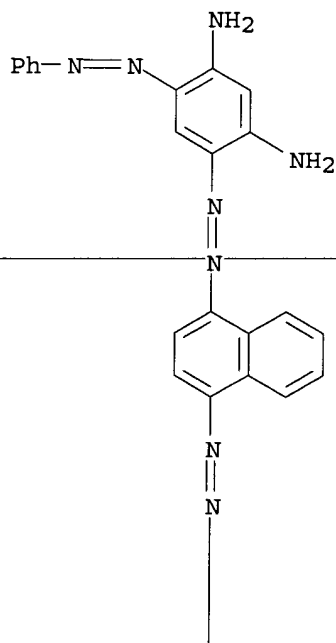
RN 3351-05-1 CAPLUS
 CN 1-Naphthalenesulfonic acid, 8-(phenylamino)-5-[[4-[(3-sulfophenyl)azo]-1-naphthalenyl]azo]-, disodium salt (9CI) (CA INDEX NAME)



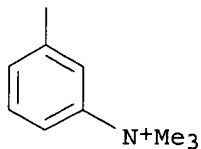
●2 Na

DN 61:21659
 OREF 61:3698e
 TI Determination of cationic dyes
 AU Schiffner, Rudolf; Borrmeister, Bodo
 CS Deut. Akad. Wiss., Berlin
 SO Faserforsch. Textiltech. (1964), 15(5), 211-14
 DT Journal
 LA Unavailable
 AB Many cationic dyes (I) can be detd. by titrating a dil. soln., at pH 4.7 (N AcOH-AcONa buffer), with a 3 g./l. soln. of Blancophor G Extra High Conc. (II), a com. fluorescent brightener. I reacts with II to form insol. products, with simultaneous extinction of the **fluorescence** of II. End point is indicated by the appearance of permanent **fluorescence** owing to excess II. The method is accurate to within $\pm 0.2-3\%$.
 IT 6054-43-9, Ammonium, [m-[[4-[[2,4-diamino-5-(phenylazo)phenyl]azo]-1-naphthyl]azo]phenyl]trimethyl, chloride
 (detn. of)
 RN 6054-43-9 CAPLUS
 CN Benzenaminium, 3-[[4-[[2,4-diamino-5-(phenylazo)phenyl]azo]-1-naphthalenyl]azo]-N,N,N-trimethyl-, chloride (9CI) (CA INDEX NAME)

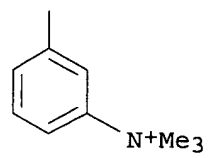
PAGE 1-A



PAGE 2-A



● Cl⁻



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=> file reg

COST IN U.S. DOLLARS

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ENTRY

SESSION

FULL ESTIMATED COST

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DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STN Note 27, Searching Properties in the CAS Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL ***

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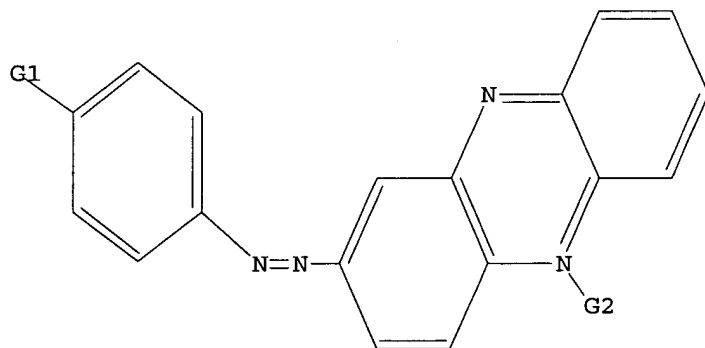
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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 C,N

G2 Cb,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

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FULL SCREEN SEARCH COMPLETED - 123 TO ITERATE

100.0% PROCESSED 123 ITERATIONS
SEARCH TIME: 00.00.02

0 ANSWERS

L2 0 SEA SSS FUL L1

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FILE 'HOME' ENTERED AT 15:07:25 ON 04 NOV 2002

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

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STRUCTURE FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

DICTIONARY FILE UPDATES: 3 NOV 2002 HIGHEST RN 469858-87-5

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<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

*** YOU HAVE NEW MAIL ***

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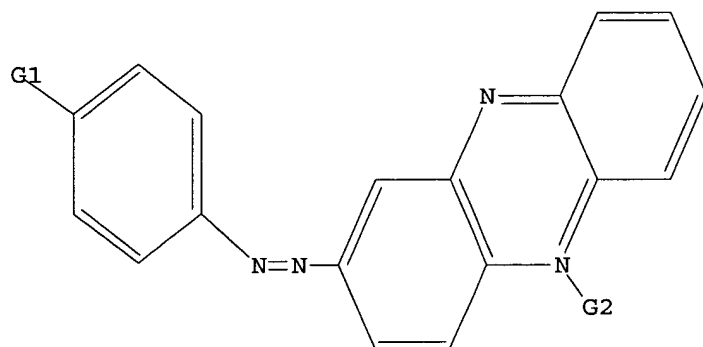
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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 C,N

G2 Cb,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

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SEARCH TIME: 00.00.02

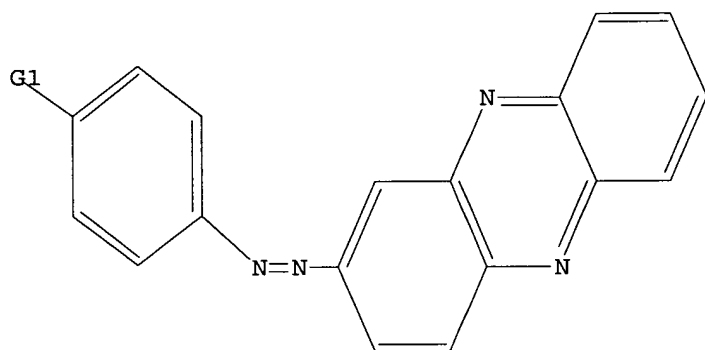
0 ANSWERS

L2 0 SEA SSS FUL L1

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Uploading 09942342.str

L3 STRUCTURE UPLOADED

=> d l3
L3 HAS NO ANSWERS
L3 STR



G1 C,N

G2-Cb,Cy,Hy

Structure attributes must be viewed using STN Express query preparation.

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FULL SEARCH INITIATED 15:09:02 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 123 TO ITERATE

100.0% PROCESSED 123 ITERATIONS
SEARCH TIME: 00.00.01

88 ANSWERS

L4 88 SEA SSS FUL L3

=> file caplus
COST IN U.S. DOLLARS
FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
280.94	281.15

FILE 'CAPLUS' ENTERED AT 15:09:11 ON 04 NOV 2002
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FILE LAST UPDATED: 3 Nov 2002 (20021103/ED)

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CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> s l4

L5 246 L4

=> s l5 and fluorescen?

330076 FLUORESCEN?

L6 11 L5 AND FLUORESCEN?

=> d l6 bib abs hitstr 1-11

L6 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 2001:833569 CAPLUS

DN 135:368945

TI Synthesis and methods for dark quencher probes for donor-acceptor energy transfer

IN Cook, Ronald M.; Lyttle, Matt; Dick, Daren

PA Biosearch Technologies, Inc., USA

SO PCT Int. Appl., 95 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001086001	A1	20011115	WO 2001-US15082	20010508
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRAI US 2000-567863 A 20000509

OS MARPAT 135:368945

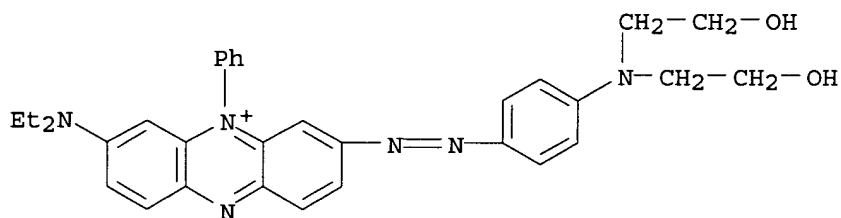
AB The invention concerns a family of quenchers of excited state energy that are substantially non-fluorescent, termed "Black Hole Quenchers" (BHQs). The quenchers of the invention remedy many of the deficiencies of currently utilized dark quenchers, probes assembled using these quenchers and methods using such quenchers and probes. Further, the dark quenchers are functionalized to allow their rapid attachment to probe that can be engineered to have a desired light absorption profile. The provision of this class of dark quenchers represents a substantial improvement in the design of probes incorporating dark quenchers and methods using such probes. Also provided are methods of using the BHQs, synthesis of such probes incorporating the BHQs and methods of using the probes.

IT 374592-00-4DP, conjugates with nucleotides 374592-03-7P

RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)
 (Synthesis and methods for dark quencher probes for donor-acceptor energy transfer)

RN 374592-00-4 CAPLUS

CN Phenazinium, 3-[[4-[bis(2-hydroxyethyl)amino]phenyl]azo]-7-(diethylamino)-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

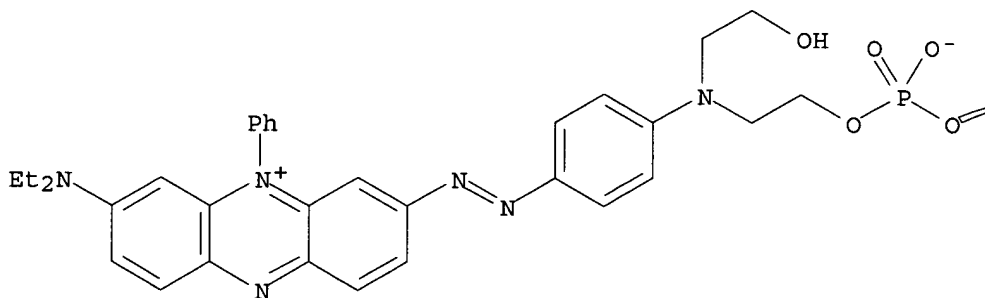
RN 374592-03-7 CAPLUS

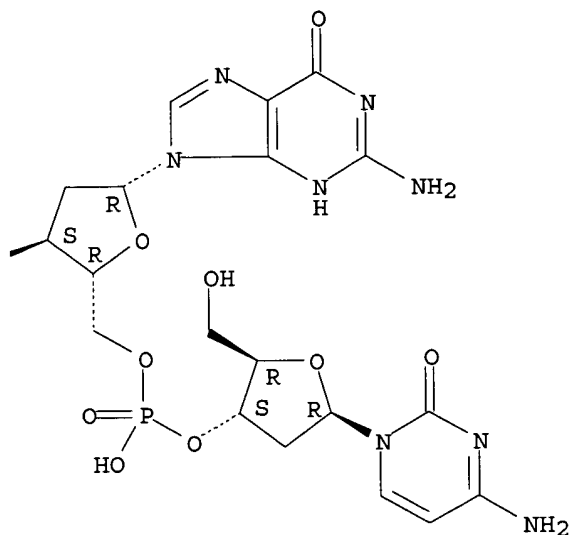
CN 3'-Guanylic acid, 2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxy-, 3'-[2-[[4-[[8-(diethylamino)-10-phenylphenazinium-2-yl]azo]phenyl](2-hydroxyethyl)amino]ethyl] ester, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry unknown.

PAGE 1-A





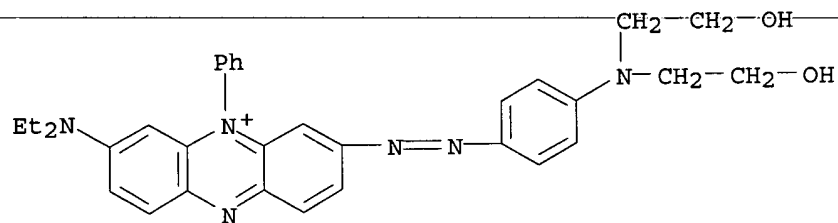
IT 374592-00-4P 374592-01-5P 374592-02-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(Synthesis and methods for dark quencher probes for donor-acceptor energy transfer)

RN 374592-00-4 CAPLUS

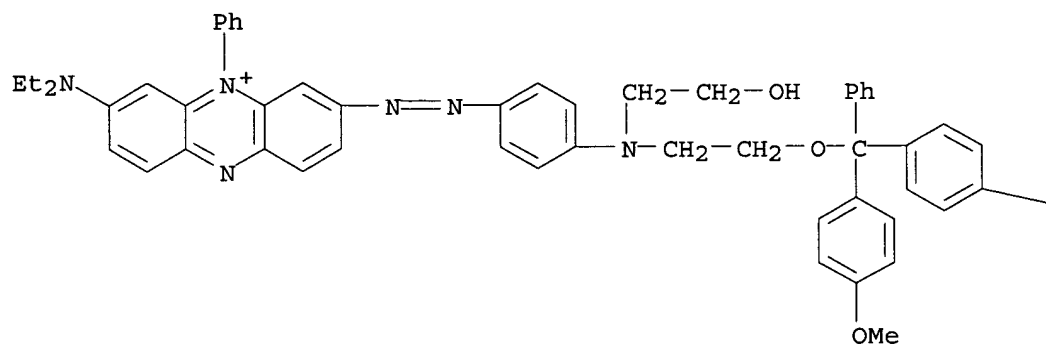
CN Phenazinium, 3-[[4-[bis(2-hydroxyethyl)amino]phenyl]azo]-7-(diethylamino)-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

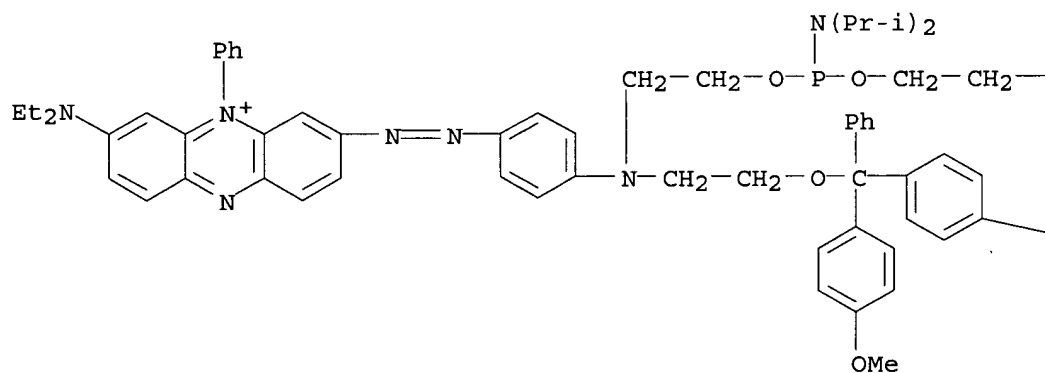
RN 374592-01-5 CAPLUS

CN Phenazinium, 3-[[4-[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl](2-hydroxyethyl)amino]phenyl]azo]-7-(diethylamino)-5-phenyl-, chloride (9CI) (CA INDEX NAME)

● Cl⁻

— OMe

RN 374592-02-6 CAPLUS
 CN Phenazinium, 3-[[4-[[2-[bis(4-methoxyphenyl)phenylmethoxy]ethyl][2-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]oxy]ethyl]amino]phenyl]azo]-7-(diethylamino)-5-phenyl-, chloride (9CI) (CA INDEX NAME)

● Cl⁻

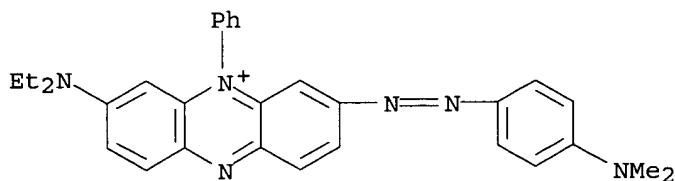
— CN

— OMe

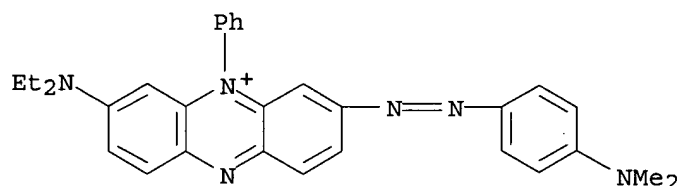
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN 1994:81314 CAPLUS
DN 120:81314
TI Methanol fuel containing flame luminosity agent
IN Kiovsky, Thomas E.; Clark, Wendy L.
PA Standard Oil Co., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5266080	A	19931130	US 1989-419681	19891011
AB	The flame luminosity of a methanol fuel is appreciably enhanced by the addn. of .gtoreq.1 flame luminosity enhancing agent selected from the group consisting of azine dyes (e.g., Safranin O, Janus Green B, Azure B, Toluidine Blue, and Methylene Green), triarylmethane dyes (e.g., Patent Blue VF, Guinea Green B, Light Green SF Yellowish, Lissamine Green B, and Methyl green), fluorescein dyes (e.g., Fluorescein, Me Eosin, and Rose Bengal), imine dyes (e.g., Auromine O), and anthraquinone dyes (e.g., Disperse Blue 14), said dye excluding any metal component whose combustion product(s) tend to cause excessive wear in an engine operated with the fuel compn. or tend to significantly interfere with normal operation of such engine or any of its assocd. systems. The flame luminosity enhancing agent is effective at a low concn. and produces a pale to bright orange flame which is easily visible and thus safer than the practically non-luminous methanol flame.				
IT	2869-83-2, Janus Green B RL: MSC (Miscellaneous) (dyes as flame luminosity agents for methanol fuel)				
RN	2869-83-2 CAPLUS				
CN	Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)				



L6 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1991:467772 CAPLUS
 DN 115:67772
 TI **Fluorescent** markers for hypoxic cells: a study of novel heterocyclic compounds that undergo bioreductive binding
 AU Hodgkiss, R. J.; Begg, A. C.; Middleton, R. W.; Parrick, J.; Stratford, M. R. L.; Wardman, P.; Wilson, G. D.
 CS Gray Lab. Cancer Res., Mt. Vernon Hosp., Northwood/Middlesex, HA6 2JR, UK
 SO Biochemical Pharmacology (1991), 41(4), 533-41
 CODEN: BCPA6; ISSN: 0006-2952
 DT Journal
 LA English
 AB The bioreductive metab. and binding of nitroarom. compds. has been suggested as a method for the identification of hypoxic tumor cells. Bound metabolites of suitable nitroaryl compds. (and some other reducible arom. compds.) may fluoresce, offering an alternative to radiolabeling or NMR, etc., as a diagnostic method. In this study the synthesis of some heteroarom. nitro compds. is given together with the results obtained from testing of these and other mainly nitro arom. compds. in vitro as potential bioreductive **fluorescent** probes for hypoxic cells in tumors. Compds. were incubated with oxygenated or hypoxic mammalian cell suspensions for various times before evaluation of the cellular **fluorescence** from bioreductive metabolites by **fluorescence** microscopy and flow cytometry. Among those compds. yielding **fluorescent** metabolites in cells, considerable variation in hypoxic-to-oxic differential **fluorescence** was obsd. The in vitro mammalian cell test system showed several of the compds. to be sufficiently promising to merit further investigation in vivo.
 IT 2869-83-2
 RL: ANST (Analytical study)
 (fluorescent marker, for hypoxic tumor cells)
 RN 2869-83-2 CAPLUS
 CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



L6 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1990:558611 CAPLUS
 DN 113:158611
 TI Latex nanosphere delivery system (LNDS): novel nanometer-sized carriers of **fluorescent** dyes and active agents selectivity target neuronal subpopulations via uptake and retrograde transport
 AU Madison, Roger; Macklis, Jeffrey D.; Thies, Curt
 CS Med. Cent., Duke Univ., Durham, NC, 27710, USA
 SO Brain Research (1990), 522(1), 90-8
 CODEN: BRREAP; ISSN: 0006-8993
 DT Journal
 LA English
 AB A wide range of latex particles are described which are capable of

carrying high concns. of **fluorescent** dyes, drugs, and photoactive agents selectively to subpopulations of neurons in vitro and in vivo. Particle size, charge, and concn. were all found to influence uptake into cultured neurons or retrograde transport in vivo. Chromophore loadings of >14% (wt./wt.) were obtained. Incorporation of a photoactivated dye (chlorin e6) into the polymer did not compromise the ability of the dye to produce singlet oxygen following light exposure. This unique family of latex particles had as the latex nanosphere delivery system (LNDS). The LNDS will be useful for studies of neuroanatomy and nervous system development, as well as more general areas of biomedical research where it is desirable to selectively label subpopulations of cells. The LNDS also offers a means of providing targeted delivery of drugs or photoactive agents to selected subpopulations of cells; this will allow experimentation not currently possible using any existent methodol.

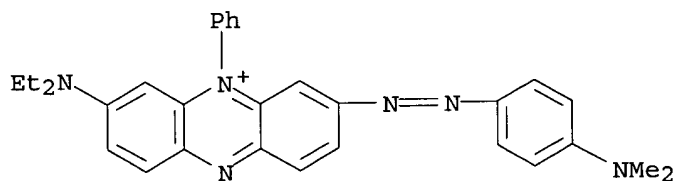
IT 2869-83-2, Janus green B 4618-88-6, Janus green

RL: BIOL (Biological study)

(polymer nanospheres contg. conjugated lectins and, for targeting to neuronal subpopulations via uptake and retrograde transport)

RN 2869-83-2 CAPLUS

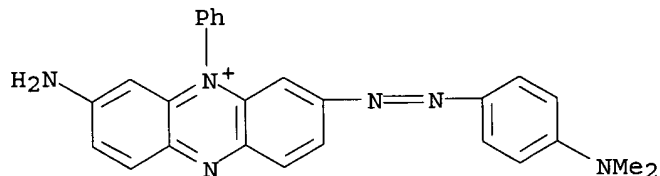
CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 4618-88-6 CAPLUS

CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1990:494134 CAPLUS

DN 113:94134

TI Interaction of molecular probes with living cells and tissues. Part 2. A structure-activity analysis of mitochondrial staining by cationic probes, and a discussion of the synergistic nature of image-based and biochemical approaches

AU Rashid, F.; Horobin, R. W.

CS Dep. Biomed. Sci., Univ. Sheffield, Sheffield, S10 2TN, UK

SO Histochemistry (1990), 94(3), 303-8
 CODEN: HCMYAL; ISSN: 0301-5564

DT Journal

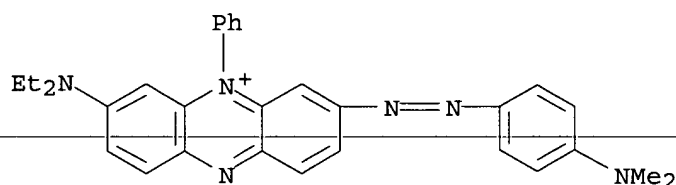
LA English

AB Cultured rat fibroblasts were exposed to 41 cationic **fluorescent** probes of very varied hydrophilicity/lipophilicity. Outcome of probe-cell interaction fell into 1 of the following categories: probe failed to enter the cells; probe accumulated on cell surfaces; probe accumulated in mitochondria, and/or in other intracellular regions. The observations were analyzed using a Simplistic Chinese Box (SCB) approach, and the following conclusions were reached. It was the hydrophilic probes which failed to enter cells, whereas extremely lipophilic probes were retained on the cell surfaces. Only the slightly lipophilic cationic probes were permeant, and accumulated in mitochondria. Using the probes log P values to model hydrophilicity/lipophilicity, effective cationic mitochondrial stains can be specified numerically so: $0 < \log P_{\text{probe}} < +5$. This SCB model was used to rationalize a variety of earlier observations on the action of mitochondrial probes. The applicability of the SCB approach to integrate image-based and biochem. investigations was demonstrated by using the action of chlorpromazine on mitochondrial action as a case example.

IT **2869-83-2**, Janus Green B
 RL: ANST (Analytical study)
 (staining with, of mitochondria, structure-activity anal. of)

RN 2869-83-2 CAPLUS

CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1990:474185 CAPLUS

DN 113:74185

TI Displacement of surface-bound cationic dyes: a method for the rapid and semi-quantitative assay of metal binding to microbial surfaces

AU Savvaidis, Ioannis; Nobar, Ali; Hughes, Martin N.; Poole, Robert K.

CS Microbial Physiol. Res. Group, King's Coll. London, London, UK

SO Journal of Microbiological Methods (1990), 11(2), 95-106
 CODEN: JMIMDQ; ISSN: 0167-7012

DT Journal

LA English

AB A method is described for the rapid and semiquant. assessment of the extent of metal ion binding to microbial cell surfaces. The technique is based on the affinity of such surfaces, which are predominantly anionic (by virtue of carboxyl, phosphate, and other exposed groups), for binding cationic dyes, and on the ability of exogenous metal ions in soln. to compete with and reverse dye binding. Thus, Janus Green bound to intact cells of *Pseudomonas cepacia* is readily displaced by 1 of several metal ions. For Cu, dye displacement is rapid (<1 min) and is a function of the amt. of bound metal (as detd. by at. absorption spectroscopy) at added Cu concns. up to 2 mM. The method is applicable to other gram-neg. and

gram-pos. bacteria and to yeast. In general, the order of efficacy of metal ions in displacing dye is $Pb^{2+} > Cd^{2+} > Cu^{2+} > Ni^{2+} > Co^{2+}$ and, for the transition metals, is in accord with the Irving-Williams series. The method is readily scaled down and allows measurement of metal-induced dye displacement from cells in a single colony from solid medium. The advantages and limitations of the procedure are discussed and its wide applicability in biosorption studies proposed.

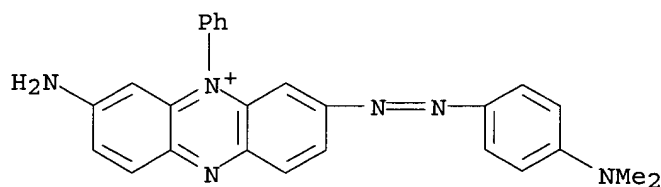
IT 4618-88-6, Janus Green

RL: ANST (Analytical study)

(metal binding to microbial surfaces detn. by displacement of surface-bound)

RN 4618-88-6 CAPLUS

CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1987:435916 CAPLUS

DN 107:35916

TI **Fluorescent** probes that stain living nerve terminals

AU Magrassi, Lorenzo; Purves, Dale; Lichtman, Jeff W.

CS Sch. Med., Washington Univ., St. Louis, MO, 63110, USA

SO Journal of Neuroscience (1987), 7(4), 1207-14

CODEN: JNRSDS; ISSN: 0270-6474

DT Journal

LA English

AB The efficacy was evaluated of 18 cationic mitochondrial dyes that, as a class, show some ability to stain living nerve terminals. Several of these agents provide excellent staining of neuromuscular junctions in a wide range of species. More detailed studies of the most effective of these dyes [4-(4-diethylaminostyryl)-N-methylpyridinium iodide (4-Di-2-ASP)] indicate that it has no lasting effect on the structure or function of motor nerve terminals. As demonstrated in the accompanying paper (Lichtman, J. W. et al., 1987; see also Lichtman, J. W. et al., 1986), 4-Di-2-ASP can therefore be used to follow the configuration of identified motor terminals over arbitrarily long intervals.

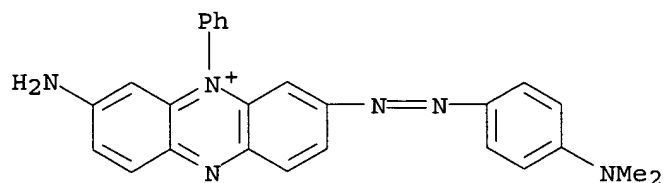
IT 4618-88-6, Janus green

RL: ANST (Analytical study)

(staining by, of living nerve terminals)

RN 4618-88-6 CAPLUS

CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

L6 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1986:438550 CAPLUS

DN 105:38550

TI Prediction of in situ **fluorescence** of histochemical reagents using a structure-staining correlation procedure

AU Juarraz, A.; Horobin, R. W.; Proctor, G. B.

CS Dep. Anat. Cell Biol., Univ. Sheffield, Sheffield, S10 2TN, UK

SO Histochemistry (1986), 84(4-6), 426-31

CODEN: HCMYAL; ISSN: 0301-5564

DT Journal

LA English

AB A total of 90 acid, basic, and nonionic dyes were screened for **fluorescent** staining of various Carnoy fixed rat tissues. It was found that the **fluorescence**/nonfluorescence of a dye could be predicted using a conjugated bond no. (CBN) cut-off value. Thus, 90% of the dyes with CBNs of .ltoreq.29 were **fluorescent**, whereas 70% of the dyes whose CBNs exceeded 30 were nonfluorescent. The cut-off value was not influenced by the charge, or the hydrophobic-hydrophilic character of the dye, although **fluorescence** was greatly influenced by the mode of fixation. The CBN cut-off value proved surprisingly robust.

Thus, most fluorochromes found in the histochem. literature have small conjugated systems, with CBNs less than the cut-off value. This includes labels of Igs, vital stains of neurons, and **fluorescent** Schiff reagents. Conversely, several dyes used to quench background autofluorescence have large conjugated systems, with CBNs substantially above the cut-off value.

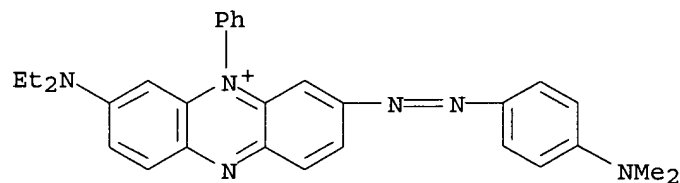
IT 2869-83-2

RL: ANST (Analytical study)

(**fluorescent** staining with, of animal tissues, structure-staining correlation procedure for prediction of)

RN 2869-83-2 CAPLUS

CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



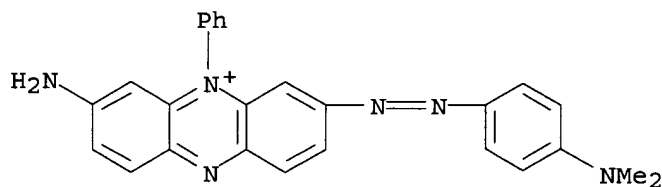
● Cl⁻

L6 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2002 ACS

AN 1977:1521 CAPLUS
 DN 86:1521
 TI Purification and properties of soluble hydrogenase from *Alcaligenes eutrophus* H 16
 AU Schneider, Klaus; Schlegel, Hans G.
 CS Inst. Mikrobiol., Ges. Strahlen- und Umweltforsch. m.b.H. Muenchen, Goettingen, Ger.
 SO Biochim. Biophys. Acta (1976), 452(1), 66-80
 CODEN: BBACAQ
 DT Journal
 LA English
 AB The sol. hydrogenase (EC 1.12.1.2) from *A. eutrophus* H 16 was purified 68-fold with a yield of 20% and a final specific activity (NAD redn.) of .apprx.54 .mu.mole H oxidized/min/mg protein. The enzyme was homogeneous by polyacrylamide gel electrophoresis. Its mol. wt. and isoelec. point were 205,000 and 4.85, resp. The oxidized hydrogenase was of high stability but not reactive. Reductive activation of the enzyme by H, in the presence of catalytic amts. of NADH, or by reducing agents caused the hydrogenase to become unstable. The purified enzyme, in its active state, reduced NAD, FMN, FAD, menaquinone, ubiquinone, cytochrome c, methylene blue, methyl viologen, PhCH₂ viologen, phenazine methosulfate, janus green, 2,6-dichlorophenolindophenol, ferricyanide, and O. In addn. to hydrogenase activity, the enzyme exhibited also diaphorase and NAD(P)H oxidase activity. The reversibility of hydrogenase function was demonstrated. With respect to H as substrate, hydrogenase showed neg. cooperativity; the Hill coeff. was $n = 0.4$. The apparent K_m value for H was 0.037 mM. The absorption spectrum of hydrogenase was typical for nonheme Fe proteins, showing maxima at 380 and 420 nm. A flavine component was extd. from native hydrogenase characterized by its absorption bands at 375 and 447 nm and a strong **fluorescence** at 526 nm.

IT **4618-88-6**
 RL: RCT (Reactant)
 (reaction of, with hydrogenase)

RN 4618-88-6 CAPLUS
 CN Phenazinium, 3-amino-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)

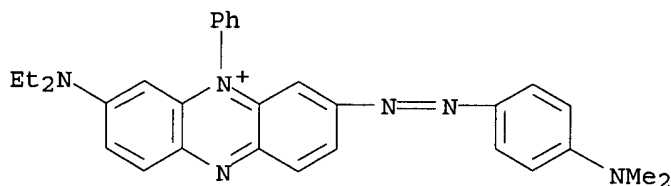


L6 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1974:487501 CAPLUS
 DN 81:87501
 TI Dye-induced **fluorescence** of tumor cells. Photochemical action spectra
 AU Bastos, A. L.; Marques, D.; Affra, M. A.
 CS Lab. Citol. Calouste Gulbenkian, Inst. Portugues Oncol. Francisco Gentil, Lisbon, Port.
 SO Histochem. J. (1974), 6(3), 237-43
 CODEN: HISJAE
 DT Journal

LA English
 AB Sarcoma 37 ascitic tumor cells obtained from white mice were used after 6, 7, or 8 days i.p. cell transplantation, living or fixed, stained with 0.005% Nile Blue sulfate in 1% H₂SO₄, 0.02% aq. Azure II, or 0.01% wt/vol. Janus Green B in 86% NaCl soln. A microfluorometer equipped with a photomultiplier was used and a high pressure Xe burner was used as a light source. To obtain the action spectra, each prepn. was exposed to the selected wavelength during 20 sec and then a reading of the **fluorescence** intensity was taken. With one exception all the plots obtained showed a marked increase in **fluorescence** intensity on irradiation. The exception was the Nile Blue-stained supravital prepn. which displayed a fading of **fluorescence** with exposure to light that was particularly pronounced, at approx. 365 nm. The action spectra of the sarcoma 37 ascitic tumor cells, fixed and living, stained with the oxazine dye Nile Blue, the thiazine dye Azure II, and the monoazo dye Janus Green B, display maxima in the 365-400 nm region. The action spectra peaks do not coincide with the absorption maxima of the dyes in soln.

IT 2869-83-2
 RL: ANST (Analytical study)
 (fluorescence of tumor cells induced by, action spectrum of)

RN 2869-83-2 CAPLUS
 CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)

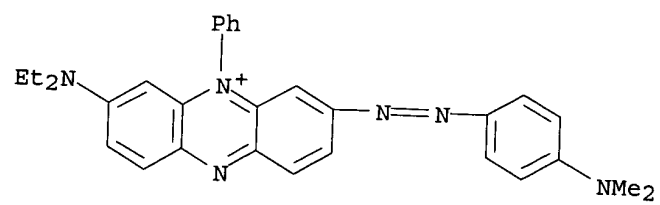


● Cl⁻

L6 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2002 ACS
 AN 1967:25914 CAPLUS
 DN 66:25914
 TI Ozone-induced chemiluminescence of organic compounds
 AU Bowman, Robert L.; Alexander, Nelson
 CS Natl. Heart Inst., Bethesda, Md., USA
 SO Science (Washington, D. C.) (1966), 154(3755), 1454-6
 CODEN: SCIEAS
 DT Journal
 LA English
 AB Chemiluminescence was observed when org. compds. in a dry state, as well as in org. solvents, were exposed to O₃ in O₂. The peak intensity of the light emission is related quant. to the amt. of compd. Many compds. can be identified by this method, and some are listed. Sensitivity of detection approximates that of **fluorescence** methods and extends to less than nanog. quantities for some compds. O₃-induced chemiluminescence of compds. in Me₂CO soln. was less sensitive than it was in the dry analysis.

IT 2869-83-2
 RL: ANT (Analyte); ANST (Analytical study)
 (detection of, by chemiluminescence in presence of ozone)

RN 2869-83-2 CAPLUS
 CN Phenazinium, 3-(diethylamino)-7-[[4-(dimethylamino)phenyl]azo]-5-phenyl-, chloride (9CI) (CA INDEX NAME)



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